SUMMARY

The Nuclear Material Stabilization mission consists of the Plutonium Finishing Plant (PFP), WBS 1.4.5, PBS TP05.

As of December 1999 a total of 164 cans of Plutonium oxides and sludges have been stabilized through thermal stabilization (69 items in December 1999). By month's end, a total of 13 liters of Plutonium nitrate solution have been stabilized in the prototype vertical denitration calciner.

Fiscal-year-to-date milestone performance (EA, DOE-HQ, and RL) shows that two milestones (67 percent) were completed on or ahead of schedule, no milestones were completed late, and one (33 percent) is overdue. Milestone (TRP-00-500) is late due to a proposed change in process implementation. A letter was sent to RL indicating the milestone would not be met. Further details can be found in the milestone exception report following the cost and schedule variance analysis.

ACCOMPLISHMENTS

- Plutonium Oxide Stabilization – A total of 164 cans of oxides/sludges have been stabilized (69 items in December 1999).
- Plutonium Nitrate Solution Stabilization – A total of 13 liters of solution have been stabilized. The magnesium hydroxide precipitation glovebox fabrication is proceeding on schedule.
- Plutonium Polycube stabilization – A decision to perform direct thermal stabilization in lieu of pyrolysis followed by thermal stabilization was made and documented via a letter issued December 30, 1999.
- Project W-460 – The contract for the Bagless Transfer System Glovebox has been issued. Delivery of this system to Hanford is expected two weeks ahead of schedule.

COST PERFORMANCE ($M):

	BCWP	ACWP	VARIANCE
Nuclear Material Stabilization	$27.3	$21.8	$5.4 *

*Rounding

The $5.4 million (19.8 percent) favorable cost variance is due to a shortage of staff, a lag in costs for contracts [(e.g., including the Energy Services contract for steam, $Mg(OH)^2$ Glovebox, etc], slow start in definitive design support for Project W-460 and delay in contract release for the Bagless Transfer System (BTS) procurement. Developed work-around with DOE Savannah River Site to recover schedule from late award of contract which delivers the BTS to Hanford two weeks early, due to arrive the first week of June 2000.

SCHEDULE PERFORMANCE ($M):

	BCWP	BCWS	VARIANCE
Facility Stabilization	$27.3	$30.6	-$3.3

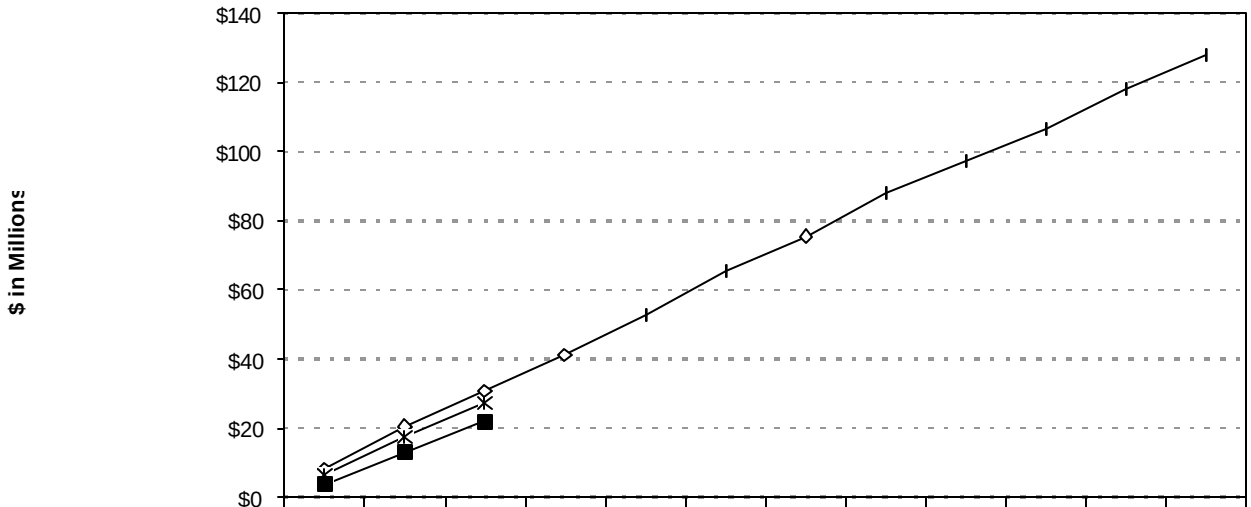
The $3.3 million (10.8 percent) unfavorable schedule variance is primarily due to the behind status in special projects (sanitary water system upgrade, Criticality Alarm Panel upgrade and radiation monitoring constant air monitor upgrade); and the definitive design delay on Project W-460. Further details provided in the Schedule Variance Analysis section.

ISSUES

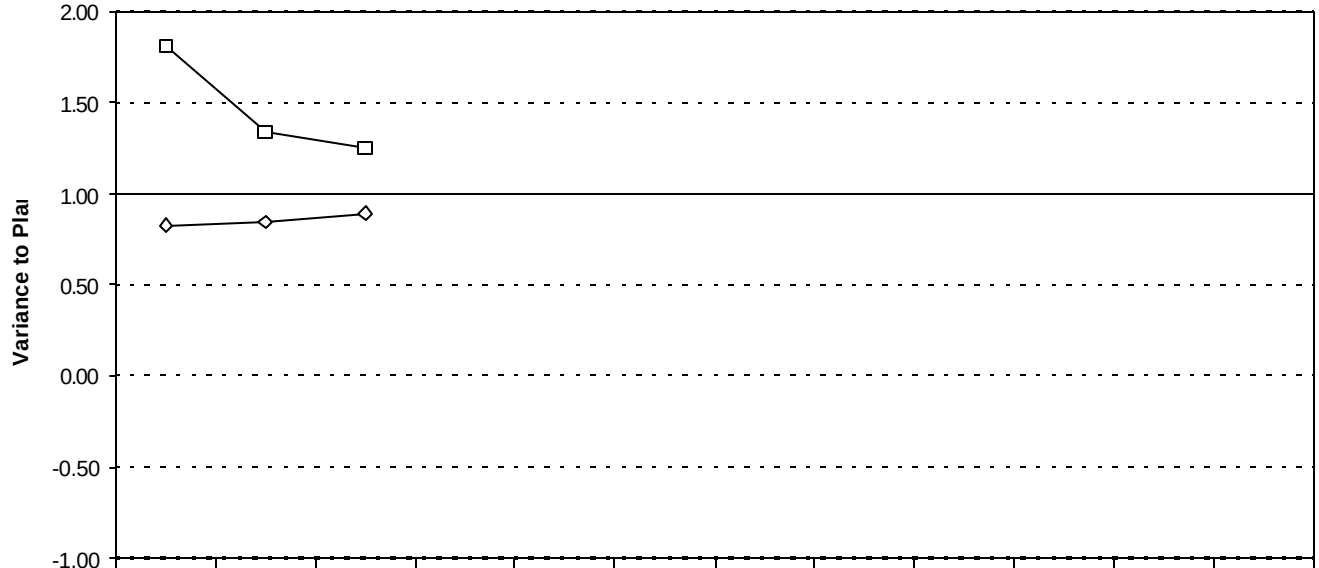
Loss of electrical transformer capacity (two of four transformers supplying power to the PFP failed in November 1999). The remaining two transformers show the same signs of degradation as the failed units.

Strategy/Status: Temporary transformers have been located and are being installed. Currently working to identify recommended path forward to ensure continued electrical capacity.

NUCLEAR MATERIALS STABILIZATION PROJECT
WBS 1.4.5
FY 2000 COST/SCHEDULE PERFORMANCE - ALL FUND TYPES
Cumulative to Date Status



	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
FYSF												
PTS BCWS	7.9	20.6	30.6	41.2	52.5	65.6	75.5	88.2	97.3	106.7	118.1	127.9
BCWP	6.5	17.4	27.3									
ACWP	3.6	13.0	21.8									
SV	(1.4)	(3.2)	(3.3)									
CV	2.9	4.4	5.4									



	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
SPI	0.83	0.84	0.89									
CPI	1.81	1.34	1.25									

NUCLEAR MATERIALS STABILIZATION PROJECT
WBS 1.4.5

PBS		FYTD BCWS	FYTD BCWP	FYTD ACWP	FYTD SV	FYTD CV	AUTH BSLN	PTS BCWS
TP05	Expense	26.2	24.7	20.3	(1.5)	4.4	107.9	110.4
	CENRTC	0.0	0.0	0.0	0.0	(0.0)	0.0	0.0
	GPP/LI	~~4.3~~	~~2.5~~	~~1.5~~	~~(1.8)~~	~~1.0~~	~~17.5~~	~~17.5~~
Total		30.6	27.3	21.8	(3.3)	5.4	125.4	127.9

$ in Millions

RL-Directed costs (steam) are included in the PTS BCWS.

COST VARIANCE ANALYSIS: (+$5.4M)

WBS/PBS **Title**

1.4.5/TP05 **PFP Deactivation (Nuclear Materials Stabilization Project)**

Description and Cause: The $5.4 million favorable cost variance is due to a shortage of staff FY2000 resulting from suspended hiring in FY1999 due to budget constraints, lag in costs for contracts (i.e., including the Energy Services contract for steam), and delay in contract release for the BTS glove box procurement.

Impact: No impact. The favorable cost variance will self correct once contract costs/accruals align.

Corrective Action: Numerous contracts have been issued to correct for staff shortage. Also, staff hiring has been expedited.

SCHEDULE VARIANCE ANALYSIS: (-$3.3)

WBS/PBS **Title**

1.4.5/TP05 **PFP Deactivation (Nuclear Materials Stabilization Project)**

Description and Cause: The unfavorable schedule variance is due primarily to: 1) Min-safe activities are behind schedule <$606K> on projects such as sanitary water system (must wait for warmer weather), Cost Air Monitor (CAM) replacements (CAMs on order but not arrived) and the criticality alarm panel upgrades (budget front-loaded) awaiting available time for craft support; 2) Stabilize Polycubes shows behind schedule <$497> because project being statused against original baseline yet working on new path forward with an approved AWA; 3) Stabilize Residues behind <$416> due to the same reason as polycubes; 4) Disposition of Nuclear Materials behind schedule <$858> because resources have been used in supporting stabilization efforts; and 5) Project W-460 behind schedule <$1,947> due to facility mod construction not started awaiting design, procurements (NDA lab equipment, trailer installation, and Outer Can Welder) delayed. The negative schedule variances are somewhat offset by ahead of schedule status ($2106) for metal stabilization. Schedule recovery on all activities is in work.

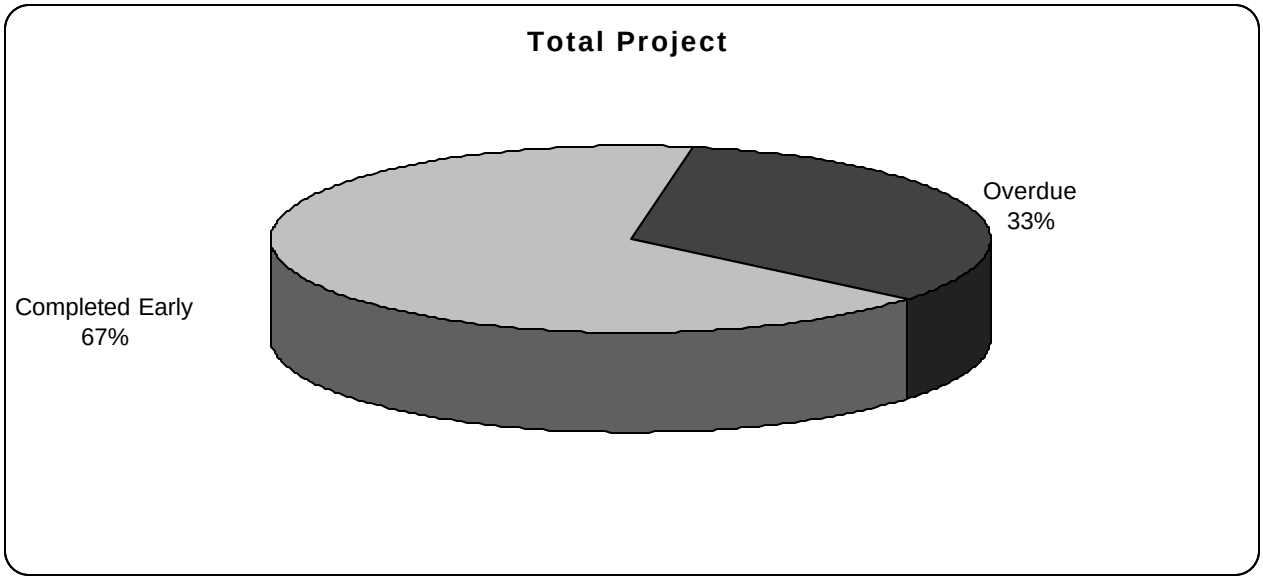
Impact: There is no long term impact from the behind schedule status on either the Special Project or Project W-460 definitive design activities as the schedule is anticipated to be recovered.

Corrective Action: Special projects and definitive design being worked to recover schedule.

NUCLEAR MATERIAL STABILIZATION – WBS 1.4.5

MILESTONE ACHIEVEMENT

MILESTONE TYPE	FISCAL YEAR-TO-DATE				REMAINING SCHEDULED			TOTAL FY 2000
	Completed Early	Completed On Schedule	Completed Late	Overdue	Forecast Early	Forecast On Schedule	Forecast Late	
Enforceable Agreement	1	0	0	0	0	1	0	2
DOE-HQ	0	0	0	1	0	0	0	1
RL	1	0	0	0	0	10	0	11
Total Project	2	0	0	1	0	11	0	14



MILESTONE EXCEPTION REPORT

Number/WBS	Level	Milestone Title	Baseline Date	Forecast Date

OVERDUE – 1

TRP-00-500 1.4.5	**HQ**	Install Two LANL Pyrolysis Units for Stabilization of Polycubes	12/31/99	Proposed Deletion

Cause: An alternative path forward using muffle furnaces for stabilization of polycubes has been recommended. A letter was issued to Department of Energy, Richland Office (DOE-RL) stating this Defense Nuclear Facility Safety Board milestone would not be met.
Corrective Action: Thermal stabilization testing at Hanford's Pacific Northwest National Laboratory and Plutonium Finishing Plant's Plutonium Process Support Laboratory is underway with an approved Advanced Work Authorization. A baseline change request is being prepared to document changes.

FY 1999 OVERDUE – 2

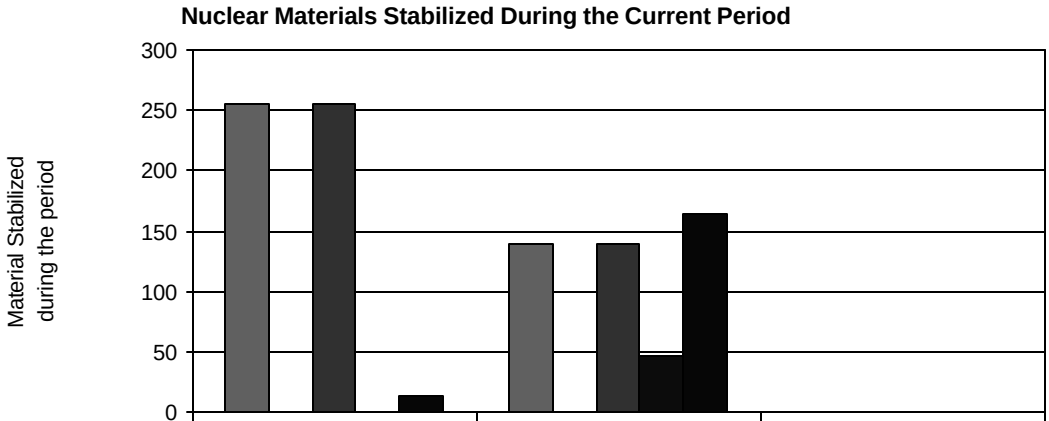
TRP-99-419 1.4.5	**HQ**	Complete Installation of Production Scale Vertical Calciner	09/30/99	Proposed Deletion

Cause: The production scale vertical calciner has been replaced with the Magnesium Hydroxide Precipitation process.
Impact: No impact. This milestone is obsolete.
Corrective Action: Since installation and testing of the production scale vertical calciner is an EM-65 Management Commitment, the Department of Energy, Richland Office (DOE-RL) change control process cannot remove this milestone.

TRP-99-500 1.4.5	**HQ**	Complete Installation & Testing of Production Vertical Calciner	09/30/99	Proposed Deletion

Cause: The production scale vertical calciner has been replaced with the Magnesium Hydroxide Precipitation process.
Impact: No impact. This milestone is obsolete.
Corrective Action: Since installation and testing of the production scale vertical calciner is an EM-65 Management Commitment, the Department of Energy, Richland Office change control process cannot remove this milestone.

Nuclear Materials Stabilized During the Current Period



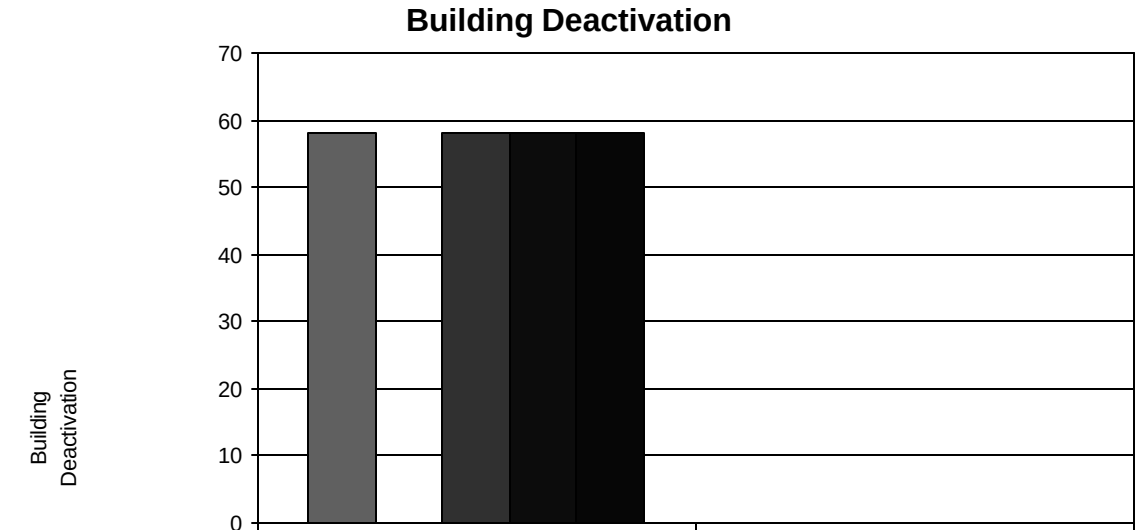
	Plutonium Solution (L)	Plutonium Oxides (containers)	Uranium in Other Forms (Kg bulk)
FY00 MYWP	255	140	0
EM Mgmt Commitm't			
FY00 Current Baseline	255	140	0
FYTD Planned	0	47	0
FYTD Actual	13	164	0

Plutonium Solution: Laboratory testing resulted in early stabilization of 13 liters of Plutonium solution during 1st quarter FY00.

Plutonium Oxides: 164 cans of metal/oxide were stabilized, which exceeds the planned quantity of 47 cans. Metal/oxide stabilization will continue for the next two quarters, whereupon the focus will switch towards stabilization of the solutions. It is currently expected that planned quantities for stabilization of residue, solution and metal/oxide will be met or exceeded for FY00.

Uranium in Other Forms: There is no Uranium inventory.

BUILDING DEACTIVATION



	Bldg. Not Yet Deactivated	Post Deactivation
FY00 MYWP	58	
EM Mgmt Commitm't		
FY00 Current Baseline	58	
FYTD Planned	58	
FYTD Actual	58	

Buildings Not Yet Deactivated: Deactivation of the 58 FYTD actual buildings not yet deactivated will not begin until FY2009 as documented in the Integrated Project Management Plan for the Nuclear Material Stabilization Project.

Post Deactivation: There are no buildings in post deactivation.